WHAT IS CLAIMED IS:

1. A method for obtaining a biological factor from the cells below the stratum corneum of the skin of a subject, the method comprising:

a) removing the stratum corneum to expose a cell surface; and

b) extracting the biological factor from the exposed cell surface.

2. The method of claim 1, wherein removal of the stratum corneum uses a procedure selected from the group consisting of:

a) abrading the stratum corneum; and

b) contacting the stratum corneum with an adhesive surface.

3. The method of claim 1, wherein biological factor is collected from the exposed cell surface using a procedure selected from the group consisting of:

a) scraping the surface exposed with a rigid surface; and

b) contacting the surface exposed with an adhesive surface.

4. The method of claim 3, wherein the adhesive surface comprises adhesive tape.

5. The method of claim 1, wherein the biological factor is a polynucleotide.

6. The method of claim 5, wherein the polynucleotide is a mRNA.

7. The method of claim 6, wherein the mRNA encodes a cytokine.

8. The method of claim 6, which further comprises quantifying the mRNA.\

9. The method of claim 1, wherein the biological factor is associated with a local biological reaction.

10. The method of claim 1, wherein the biological factor is associated with a systemic biological reaction.

11. A method of distinguishing an irritant contact dermatitis (ICD) from an allergic contact dermatitis (ACD) in a subject, comprising, quantifying a polynucleotide level encoding a cytokine, wherein the polynucleotide level determines whether the dermatitis is ICD or ACD.

12. The method of claim 11, wherein the polynucleotide is RNA or DNA.

13. The method of claim 12, wherein the RNA is mRNA.

14. The method of claim 11, wherein the subject is a human.

15. The method of claim 11, wherein the polynucleotide is from the cells below the stratum corneum of the skin, the method further comprising:

(a) removing the stratum corneum; and

(b) collecting polynucleotide from the surface exposed after removal of the stratum corneum.

16. The method of claim 15, wherein removal of the stratum corneum uses procedures selected from the group consisting of:

(a) abrading the stratum corneum; and

(b) contacting the stratum corneum with an adhesive surface.

17. The method of claim 15, wherein the polynucleotide is collected from the surface exposed after removal of the stratum corneum using a procedure selected from the group consisting of:

(a) scraping the surface exposed with a rigid surface; and

(b) contacting the surface exposed with an adhesive surface.

18. The method of claim 17, wherein the adhesive surface comprises adhesive tape.

19. The method of claim 13, wherein the mRNA is specific for a cytokine.

20. The method of claim 19, wherein the cytokine is IL-4 and IL-8.

21. The method of claim 20, wherein the absence of IL-4 in the presence of a reaction is characteristic of ICD.

22. The method of claim 20, wherein the level of increase in IL-8 is indicative of the severity of ICD.

23. The method of claim 19, wherein the cytokine is IL-4.

24 The method of claim 23, wherein an increase in IL-4 is characteristic of ACD.

25. The method of claim 24, wherein the level of increase in IL-4 is indicative of the severity of ACD.

26. The method of claim 11, further comprising exposing the skin to a factor prior to isolating the polynucleotide.

27. The method of claim 26, wherein the factor is an irritant, antigen or allergen.

28. A method of diagnosing ICD in a subject, comprising quantifying a polynucleotide encoding a cytokine selected from the group consisting of IL-4 and IL-8 in cells isolated from the subject, wherein the amount of IL-4 or IL-8 is indicative of ICD.

29. The method of claim 28, wherein the polynucleotide is detected by PCR.

30. The method of claim 28, wherein the polynucleotide is detected by hybridization with a polynucleotide probe.

31. The method of claim 28, wherein the polynucleotide is detected by RNase protection assay.

32. The method of claim 28, wherein the cells are skin cells.

33. The method of claim 28, wherein the subject is a mammal.

34. The method of claim 33, wherein the mammal is a human.

35. A method of diagnosing ACD in a subject, comprising quantifying a polynucleotide encoding IL-4 in cells of the subject, wherein an elevated amount of IL-4 is indicative of ACD.

36. The method of claim 35, wherein the IL-4 is detected by PCR.

37. The method of claim 35, wherein the IL-4 is detected by hybridization with a polynucleotide probe.

38. The method of claim 35, wherein the IL-4 is detected by RNase protection assay.

39. The method of claim 35, wherein the cells are skin cells.

40. The method of claim 35, wherein the subject is a mammal.

41. The method of claim 40, wherein the mammal is a human.

42. A method of identifying a compound which causes a dermatitis, comprising contacting a section of skin with the compound under conditions which would induce a dermatitis and detecting a polynucleotide encoding a cytokine wherein the presence of the polynucleotide is indicative of a dermatitis.

43. The method of claim 42, wherein the compound is an allergen.

44. The method of claim 42, wherein the compound is an irritant.

45. The method of claim 42, wherein the dermatitis is allergic contact dermatitis (ACD).

46. The method of claim 42, wherein the dermatitis is irritant contact dermatitis (ICD).

47. The method of claim 42, wherein the skin is contacted *in vivo*.

48. The method of claim 42, wherein the skin is contacted *in vitro*.

49. The method of claim 42, further comprising isolating polynucleotides from the skin.

50. The method of claim 49, wherein the polynucleotides are DNA or RNA.

51. The method of claim 50, further comprising quantifying a polynucleotide encoding IL-4, wherein an elevated amount of IL-4 is indicative of ACD.

52. The method of claim 50, further comprising quantifying a polynucleotide encoding a cytokine selected from the group consisting of IL-4 and IL-8 in cells isolated from the subject, wherein the amount of IL-4 or IL-8 is indicative of ICD.

53. The method of claim 52, wherein an increase in IL-8 in the absence of IL-4 is indicative of ICD.

54. A method of diagnosing ACD in a subject, comprising quantifying a polynucleotide encoding IL-13 in cells of the subject, wherein an elevated amount of IL-13 is indicative of ACD.

55. The method of claim 54, wherein the IL-13 is detected by PCR.

56. The method of claim 54, wherein the IL-13 is detected by hybridization with a polynucleotide probe.

57. The method of claim 54, wherein the IL-13 is detected by RNase protection assay.

58. The method of claim 54, wherein the cells are skin cells.

59. The method of claim 54, wherein the subject is a mammal.

60. The method of claim 59, wherein the mammal is a human.

61. A kit for obtaining polynucleotides from the skin, the kit comprising:

a cell collection device selected from the group consisting of a rigid surface and an adhesive tape; and

a cell lysis buffer suitable of preserving polynucleotides or a computer chip suitable for preserving polynucleotides.

62. The kit of claim 61, which further comprises an mRNA detection reagent.

63. A kit for distinguishing an irritant reaction from an allergic reaction, the kit comprising a cell collection device, a cell lysis buffer, an mRNA detection reagent.